InBody USER'S MANUAL

Thank you for purchasing InBody R20®.

Please read this manual carefully and use it with proper operation.

Keep it handy for future reference.

✻ **This product is medical equipment.**

BIOSPACE

ⓒ 1996- Biospace Co., Ltd. All rights reserved.

Notice

This user's manual cannot be copied, translated or transformed into different media without a prior written consent from Biospace Co., Ltd, according to the copyright laws. This user's manual and product pertinent to this manual may have misprints or technical flaws, which can be modified without prior notice to the readers. Biospace is not liable for any damage caused by a failure to meet the requirements in this user's manual.

Biospace Co., Ltd. [Head office]

518-10, Dogok 2-Dong, Gangnam-gu, Seoul 135-784, Korea

TEL : 82-2-501-3939

FAX : 82-2-578-2716

Homepage: http://www.inbody.com

E-mail: info@inbody.com

Acknowledgements

Biospace, InBody, Lookin' Body are the registered trademarks of Biospace Co., Ltd.

The names of the companies and products in this manual other than those of Biospace Co., Ltd. are the trademarks of the companies. Stating the products of other companies is strictly for the purpose of providing information, and not to guarantee or recommend the products. Biospace is not responsible for the performance or the use of these products.

Biospace reserves the right to modify the dimensions or exterior of InBody R20Ⓑ to improve the quality of the products, without consent of the customer.

BM-ENG1C-A5-B-120829

Introduction

Body Composition consists of 4 major components: Water, Protein, Minerals and Fat. These four elements are the fundamental ingredients the body is comprised of, and it is important for them to be in balance. Body composition analysis is expected to quantify and measure these ingredients.

Until recently, diagnosing obesity has focused on appearance, without considering a balanced body composition. For more reasonable healthcare, accurate body composition analysis must be performed first, to achieve the balance of the four major body components.

Biospace has earned international recognition for technical expertise demonstrated through the InBody series. Based on the experience and technology over the last 15 years, Biospace has released the body composition analyzer, the InBody R20®.

InBody is highly recognized for its world-best technological excellence by many customers in more than 40 different markets including the US, European countries, Japan, and more. The strong brand is well-known among medical professionals as well as academic communities, and now it is the time for you to meet InBody at your place. Enjoy healthy lifestyle with InBody!

Kichul Cha, CEO

Contents

How to use this manual	Ⅰ
Safety Information	Ⅱ
Indicators & Safety Symbols	Ⅵ
Workplace Requirements	Ⅶ
Notice	Ⅷ

1.	Product Package	1
2.	How to Insert the Batteries and Get Started	2
3.	Installation PC program	3
4.	Connecting InBody R20® and PC	10
5.	Configuration	14
6.	InBody Test mode	16
7.	Weight Measurement mode	21
8.	Maintenance	22
9.	Understanding of Results	23
10.	Error messages	31
11.	One-minute check before calling for service	32
	Appendix	34

- ✻ More about the InBody R20®
- ✻ Specifications
- ✻ Customer Service Information

How to use this manual

This user's manual explains the functions of the InBody R20Ⓑ.

Follow the instructions below for effective use this manual.

1. Please read all the instructions in this manual thoroughly before operation.
2. Fully utilize the helpful materials, such as the diagrams and illustrations, to get a clear understanding of the product.
3. Before calling Biospace for assistance,
   please refer to " Chapter 11. One-minute check before calling for service ".
4. If you have clinical issues while using the InBody R20Ⓑ, please contact us using the e-mail address as shown below.
   E-mail : usa@biospaceamerica.com TEL: 323-932-6503
5. Most importantly, please read the instructions and become familiar with the following notations:

Information

1. This product has been designed, manufactured, and inspected under the full quality assurance system of Biospace. Biospace fulfills European MDD(Medical Device Directive), and InBody R20Ⓑ has acquired the CE conformity marking.

2. This equipment may cause the above mentioned medical devices to malfunction.

3. This equipment may cause harmful interference to other devices in the vicinity if not installed and used in accordance with the installation specifications. However, there is no guarantee that the interference will not occur for a particular installation.

4. The InBody R20Ⓑ has been designed, manufactured, and inspected under the full quality assurance system of Biospace. Biospace fulfills the international standardization system, ISO 90001 and ISO 13485.

5. The InBody R20Ⓑ fulfills the Standards of IEC60601-1(EN60601-1), Safety of Electric Medical Equipment. In addition, the InBody R20Ⓑ complies not only with Level A for Noise Immunity, but also with Level A for Noise Emission by the Standard IEC60601-1-2(EN60601-1-2), Electromagnetic Compatibility Requirements.

Safety Information

The important information to warn you of situations which might cause major injury and/or damage to property if instructions are not carefully followed.

The important information to warn you of situations which might cause minor injury and/or damage to property if instructions are not carefully followed.

The important and helpful information for operation.

Make sure not to use this equipment with medical electrical devices, such as a pacemaker.

NO USAR USARLO CON EQUIPO MEDICO ELECTRONICO ASI COMO CON MARCAPASOS.

Keep this equipment away from liquid.

MANTENER USARLO LEJOS DEL AGUA.

Do not aggressively grab the hand electrode/bar.

NO AGARRAR LOS ELECTRODOS DE MANO FUERTEMENTE.

1. Do not use this equipment in combination with the following electronic medical devices.
   - Medical devices, such as a pacemaker
   - Electronic life support systems, such as an artificial heart/lung
   - Portable electronic medical devices, such as an electrocardiograph.
2. Physically disabled persons or children should not attempt to take measurements alone, but instead should get help by having manager or guardian hold them from the side or the back not to slip or to measure incorrectly.
3. Do not dismantle the equipment or open the back cover. Internal parts are not for customer use. If the equipment is dismantled, the warranty is void, and service costs will be charged. If service is required, contact Biospace or the supplying agency.
4. When connecting peripherals (optional devices) to the InBody R20Ⓑ, turn on the power of the peripherals before turning on the InBody R20Ⓑ. When turning the power off, turn off the InBody R20Ⓑ before turning off the peripherals. This process will minimize the harm to the equipment caused by electrical shock.
5. You may slip off the device if you step on it with wet feet.
6. The arm consists of a hand electrode. Do not force the arm in the wrong direction. The resulting damage may affect the functioning of the internal cable and circuit board.
7. Individuals with any kind of contagious disease or any kind of injury on the palm of their hand or sole of their foot should not come in contact with this product.
8. Never start weight reduction or exercise therapy without instruction from a physician or a specialist. Self-diagnosis may damage your health. Consult with your physician first.
9. This equipment is specifically designed to analyze body composition. Use the equipment only for its intended use as described in this manual.
10. Follow local governing ordinances and recycling plans regarding the disposal or recycling of device components.

1. Cross Contamination

   Individuals with any kind of contagious disease or infection must not use or come in contact with the platform or this product. Please be sure to clean the platform with appropriate disinfectant after each use. Never pour any liquid directly on the platform, as it may leak and cause internal damage. Use a soft cloth and appropriate ethyl alcohol to wipe off the platform. Do not wipe the platform with strong chemicals.

2. While moving, installing or using this product, be sure to protect it against any physical shock or damage. Always use the packing material and the original shipping box when moving or transporting this product.
3. Always operate this product within prescribed ranges of temperature, humidity, and pressure. Operating in ranges outside of those specified may affect the operation of this product and may cause malfunctions.
4. Be careful not to spill or drop any residues of food or beverages on this product. It may cause serious damage to the electronic components.
5. Cleaning

   Keep the platform and control panel clean by wiping them with disinfectant. Never pour any liquid directly on the platform, Use a soft cloth and appropriate ethyl alcohol to wipe off the platform. Do not wipe the platform with strong chemicals.

6. Wipe up gently the platform and control panel of the product with a soft cloth for disinfectant.
7. Install or locate equipment only in accordance with the provided installation instructions.
8. This equipment should be serviced only by qualified personnel. Contact Biospace for any Customer Service issues.
9. Please use your hands to operate buttons. Using feet may lead to malfunction of buttons.

1. This equipment may cause the above mentioned medical devices to malfunction.

   This equipment may cause harmful interference to other devices in the vicinity, if not installed and used in accordance with the installation specifications. However, there is no guarantee that the interference will not occur for a particular installation.
2. Do not dismantle the product. Internal parts are not for customer use. If the unit is dismantled, the warranty is void, and service costs will be charged to you. If service is required, contact Biospace or the supplying agency.
3. This product should be serviced only by qualified service personnel. Contact Biospace for examination, repair or adjustment.
4. Do not move the equipment with the power on.
5. Do not jump or shock on the platform, these may cause an incorrect measurement or malfunction.

Indicators & Safety Symbols

☐ Symbols

Attention, Consult accompanying documents		SN	Serial Number
Type B applied part		EC REP	Authorised Representative In The European Community
Date of manufacture		CE 0120 CE 0678	CE mark
Direct current			

☐ Care Symbols on the Box

This way up	Keep dry
Stack up to 10 boxes	Fragile–handle with care
	No Hooks

Disposal of old Electrical & Electronic Equipment

(Application in the European Union and other European countries with separate collection system)

This symbol indicates that this product shall not be treated as household waste. Instead, it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling this product, please refer to local governing ordinances and recycling plans.

NOTE

Follow local government ordinances and recycling instructions regarding disposal or recycling of device components, including batteries.

Workplace Requirements

□ **Operation Environment**

Temperature range	: 10 ~ 40 ℃ (50 ~ 104˚F)
Relative humidity	: 30 ~ 75 %
Atmospheric pressure range	: 70 ~ 106 kPa

□ **Storage Environment**

Temperature range	: -20 ~ 70 ℃ (-4 ~ 158˚F)
Relative humidity	: 10 ~ 95 % (No condensation)
Atmospheric pressure range	: 50 ~ 106 kPa

□ **Battery**

Rating	: AA Type Battery(DC 1.5V⎓ X 4EA)

Notice

Please read thoroughly and follow the instructions.

1. Please do not press InBody or Weight with other object on the platform.

2. Please use your hands to operate buttons. Using feet may lead to malfunction of buttons.

3. Please be sure to avoid keeping or using InBody in wet area, i.e. bathroom. It may cause malfunction of the device.

4. You may slip off the device if you step on it with wet feet.

5. Please wrap InBody and keep it level while storing for a long period. If you have it stand upright, it may cause errors later.

6. Please remove the batteries from the device while not in use for a long time. It may cause corrosion when left in contact with the device.
(Please follow the instruction in reverse order of ' Chapter 2. How to Insert the Batteries and Get Started')

1. Product Package

When opening the box, check to make sure all the following items are included.

Included Items

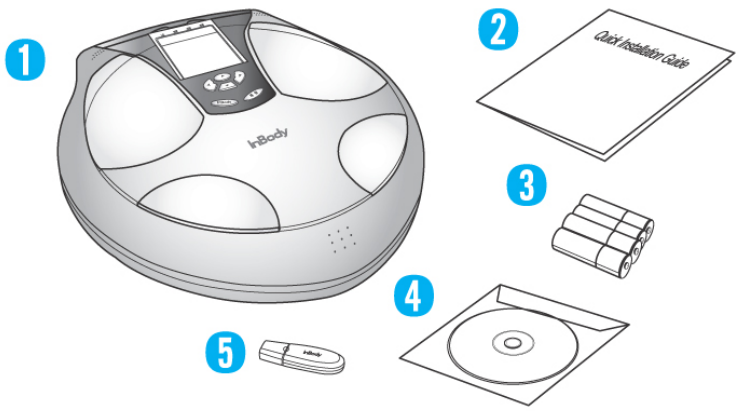
① InBody R20Ⓑ

② Quick Installation Guide

③ Battery (AA 1.5 V⎓ X 4 EA)

④ Lookin'Body110_R20 & User's Manual

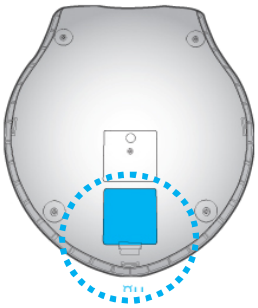
⑤ Bluetooth dongle



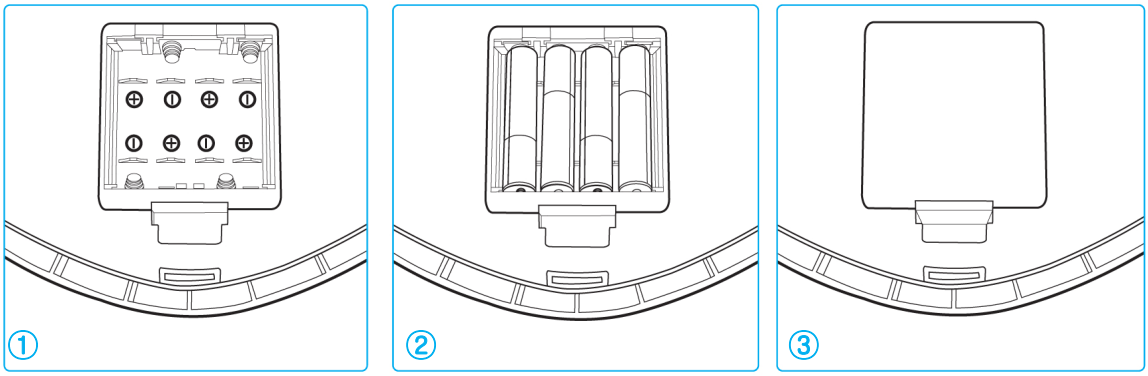
CAUTION

To prevent physical shock, use Biospace's packing material when shipping or transporting the equipment.

2. How to Insert the Batteries and Get Started



< Rear part>



1) Open the battery cover at the bottom of the device.

2) Insert the batteries AA 1.5 V⎓ X 4 EA) in right direction.

3) Close the battery cover until it clicks.

4) Turn the R20 on with InBody or Weight

: Press InBody button for InBody Test, or press Weight button for measuring weight.

NOTE Battery is low when is still on after you turn on InBody R20®.

NOTE Please replace the batteries when is blinking after you turned on InBody R20®.

NOTE Please remove the batteries from the device while not in use for a long time.
(It may cause corrosion when left in contact with the device.)

3. Installation PC program

Lookin'Body110_R20 program CD from product package.

· PC System Requirements

Operating System : Windows XP(**SP2**) / VISTA Compatible / Windows 7

CPU : Above Intel Pentium4 1Ghz, Compatible with IBM-PC

HDD : Enough space for 200MB or more

Main Memory(RAM) : 512MB or Above Recommended

Graphic Devices : Supporting 1024X768 of Resolution, 32bit Color or Above Recommended

Input Devices : Keyboard, Mouse

Communication Port : Bluetooth

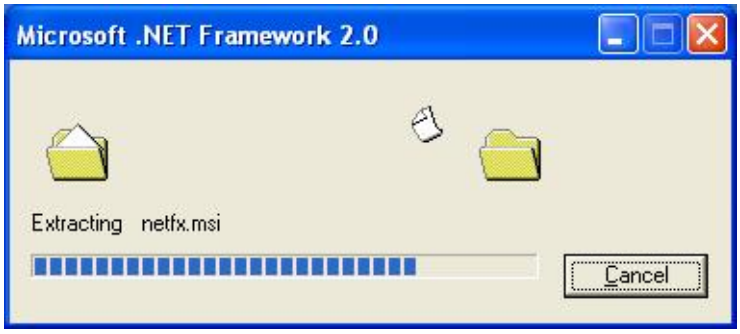
1) Do not connect Bluetooth dongle to computer before the program installation. If other Bluetooth related driver is already installed, please delete it.

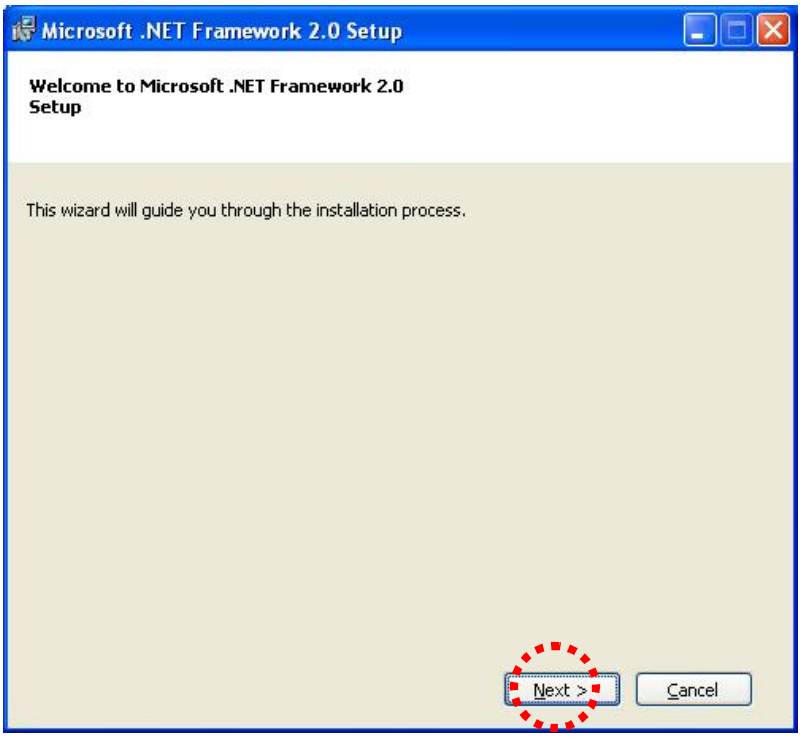
2) Installation program will be automatically running and start installation process when the Lookin'Body110_R20 is inserted.
If automatic running is failed, please run setup.exe file at CD-ROM.)

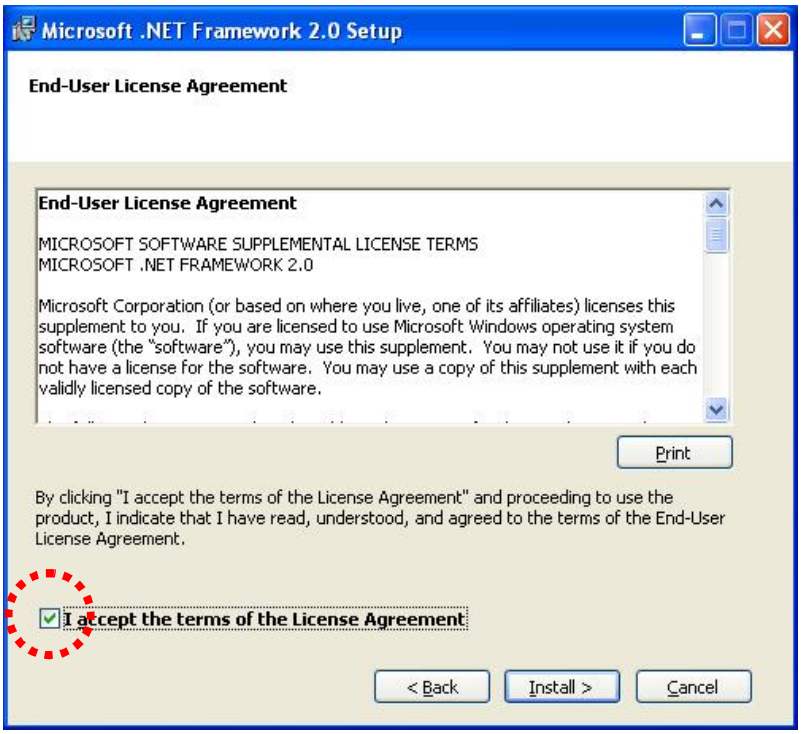
3) In case " **.NetFrameWork2.0** " is not installed in PC, please install " **.NetFrameWork2.0** " first. Complete the installation following the guide message. If " **.NetFrameWork2.0** " is already installed, please go to 4).

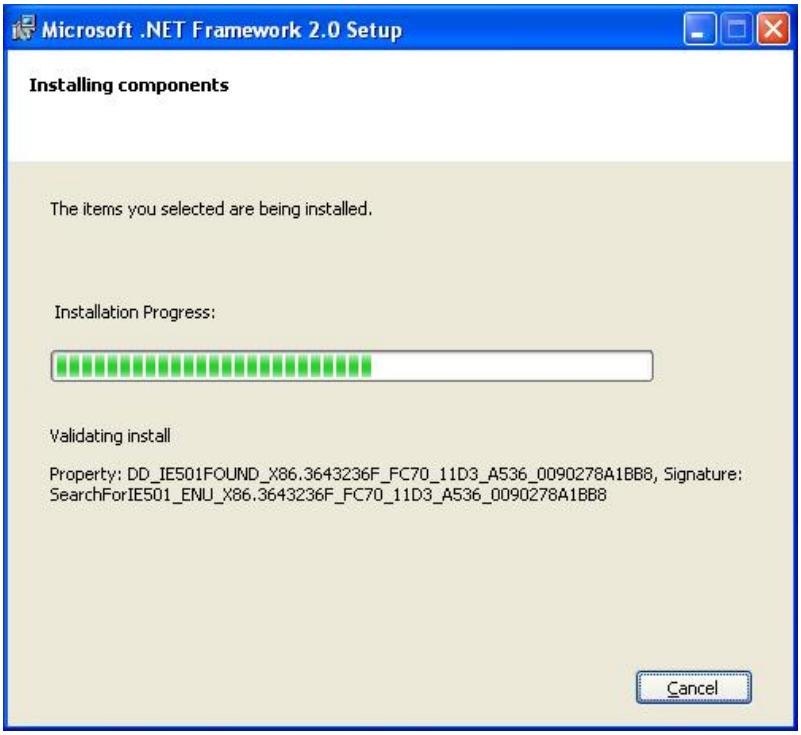
NOTE

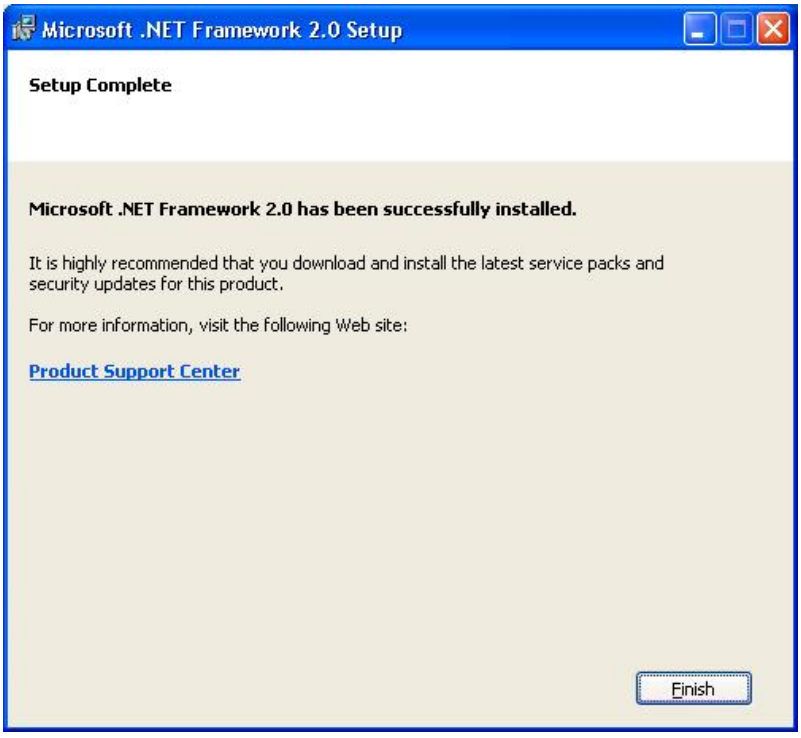
If a message comes up saying that the installation is impossible, it is highly probable due to the virus at PC. Please install again after virus cure.



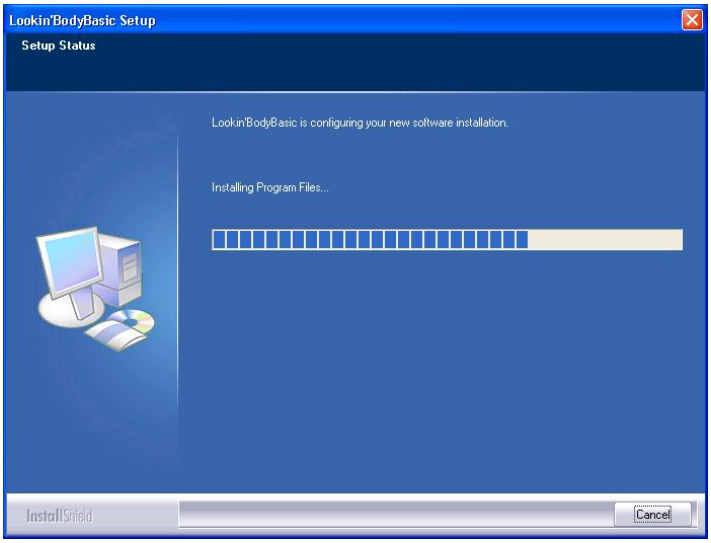

Microsoft .NET Framework 2.0 Setup
Welcome to Microsoft .NET Framework 2.0 Setup
This wizard will guide you through the installation process.
Next >
Cancel


Microsoft .NET Framework 2.0 Setup
End-User License Agreement
End-User License Agreement
MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS
MICROSOFT .NET FRAMEWORK 2.0
Microsoft Corporation (or based on where you live, one of its affiliates) licenses this supplement to you. If you are licensed to use Microsoft Windows operating system software (the "software"), you may use this supplement. You may not use it if you do not have a license for the software. You may use a copy of this supplement with each validly licensed copy of the software.
Print
By clicking "I accept the terms of the License Agreement" and proceeding to use the product, I indicate that I have read, understood, and agreed to the terms of the End-User License Agreement.
I accept the terms of the License Agreement
< Back
Install >
Cancel

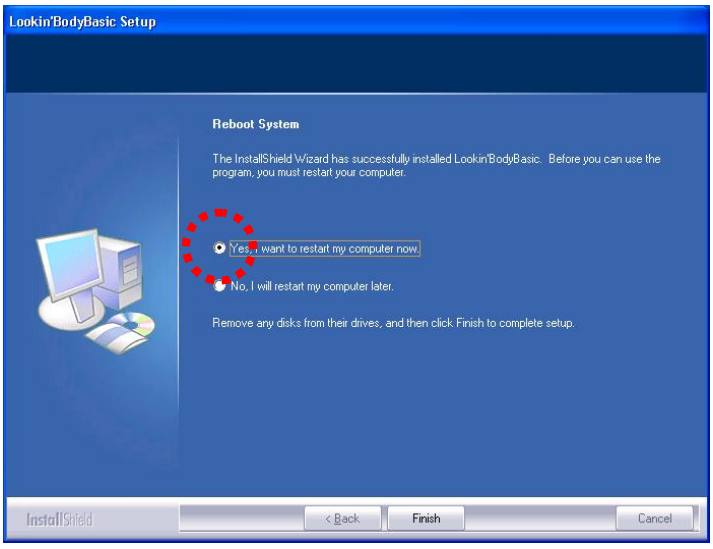

Microsoft .NET Framework 2.0 Setup
Installing components
The items you selected are being installed.
Installation Progress:
Validating install
Property: DD_IE501FOUND_X86.3643236F_FC70_11D3_A536_0090278A1BB8, Signature: SearchForIE501_ENU_X86.3643236F_FC70_11D3_A536_0090278A1BB8
Cancel


Microsoft .NET Framework 2.0 Setup
Setup Complete
Microsoft .NET Framework 2.0 has been successfully installed.
It is highly recommended that you download and install the latest service packs and security updates for this product.
For more information, visit the following Web site:
Product Support Center
Finish

4) Now, program installation starts. Please install following the guide message.



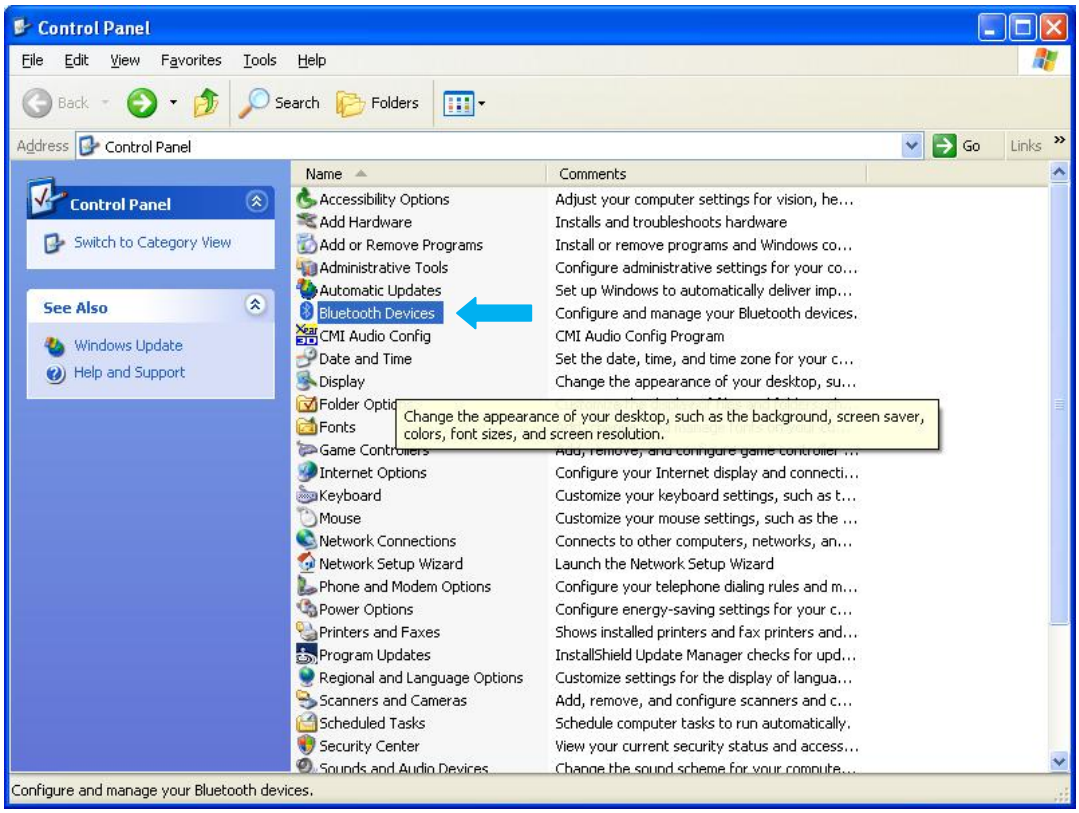
5) If following message comes up on the screen after the installation is completed, do not turn off or reboot the PC and put Bluetooth dongle from product package into PC.

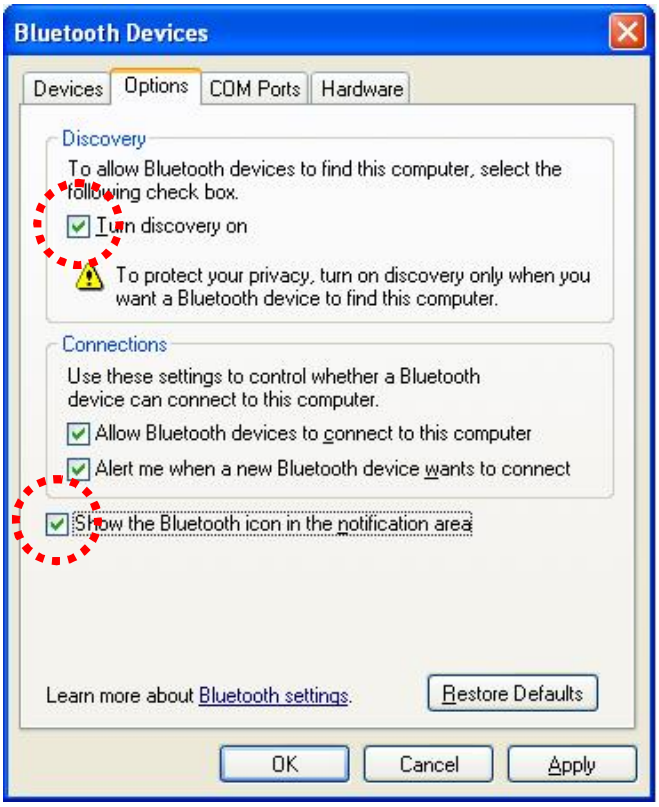

Lookin'BodyBasic Setup
Reboot System
The InstallShield Wizard has successfully installed Lookin'BodyBasic. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
InstallShield
< Back
Finish
Cancel

CAUTION

Please use the Bluetooth dongle provided by Biospace only.

6) When Bluetooth dongle is put into PC, hardware driver is automatically installed and Bluetooth icon will be created on Control Panel. Please find the Bluetooth icon from Control Panel and double click, then below screen will appear. Please set as below picture and click “OK” button to save the set value.


Control Panel
File Edit View Favorites Tools Help
Back Search Folders
Address Control Panel
Go Links
Control Panel
Switch to Category View
See Also
Windows Update
Help and Support
Name
Comments
Accessibility Options
Adjust your computer settings for vision, he...
Add Hardware
Installs and troubleshoots hardware
Add or Remove Programs
Install or remove programs and Windows co...
Administrative Tools
Configure administrative settings for your co...
Automatic Updates
Set up Windows to automatically deliver imp...
Bluetooth Devices
Configure and manage your Bluetooth devices.
CMI Audio Config
CMI Audio Config Program
Date and Time
Set the date, time, and time zone for your c...
Display
Change the appearance of your desktop, su...
Fonts
Change the appearance of your desktop, such as the background, screen saver, colors, font sizes, and screen resolution.
Internet Options
Configure your Internet display and connecti...
Keyboard
Customize your keyboard settings, such as t...
Mouse
Customize your mouse settings, such as the ...
Network Connections
Connects to other computers, networks, an...
Network Setup Wizard
Launch the Network Setup Wizard
Phone and Modem Options
Configure your telephone dialing rules and m...
Power Options
Configure energy-saving settings for your c...
Printers and Faxes
Shows installed printers and fax printers and...
Program Updates
InstallShield Update Manager checks for upd...
Regional and Language Options
Customize settings for the display of langua...
Scanners and Cameras
Add, remove, and configure scanners and c...
Scheduled Tasks
Schedule computer tasks to run automatically.
Security Center
View your current security status and access...
Configure and manage your Bluetooth devices.


Bluetooth Devices
Devices
Options
COM Ports
Hardware
Discovery
To allow Bluetooth devices to find this computer, select the following check box.
Turn discovery on
To protect your privacy, turn on discovery only when you want a Bluetooth device to find this computer.
Connections
Use these settings to control whether a Bluetooth device can connect to this computer.
Allow Bluetooth devices to connect to this computer
Alert me when a new Bluetooth device wants to connect
Show the Bluetooth icon in the notification area
Learn more about Bluetooth settings.
Restore Defaults
OK
Cancel
Apply

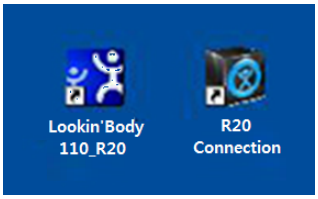
7) When Bluetooth set up is over, please reboot PC as seen in the picture of 5. and complete the installation.

8) Both “R20” and “Lookin’Body110_R20” icon will be created on the desktop when the rebooting is completed. “R20” takes care of the communication of InBody R20® and PC. This is run automatically when PC is booted.

(It move to Lookin'Body S screen when you click the R20 icon)

In case of VISTA, please allow the start program which is blocked off.

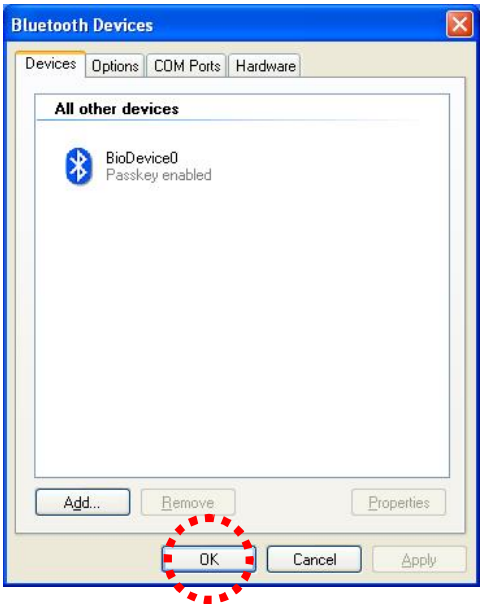
“Lookin’Body110_R20” is the managing program for the measured data.



9) Bluetooth connection is processed when InBody R20Ⓑ is turned on. Put “369258147” at PassKey when below screen appears during the process. There is no problem for the communication even closing the below screen without PassKey input.

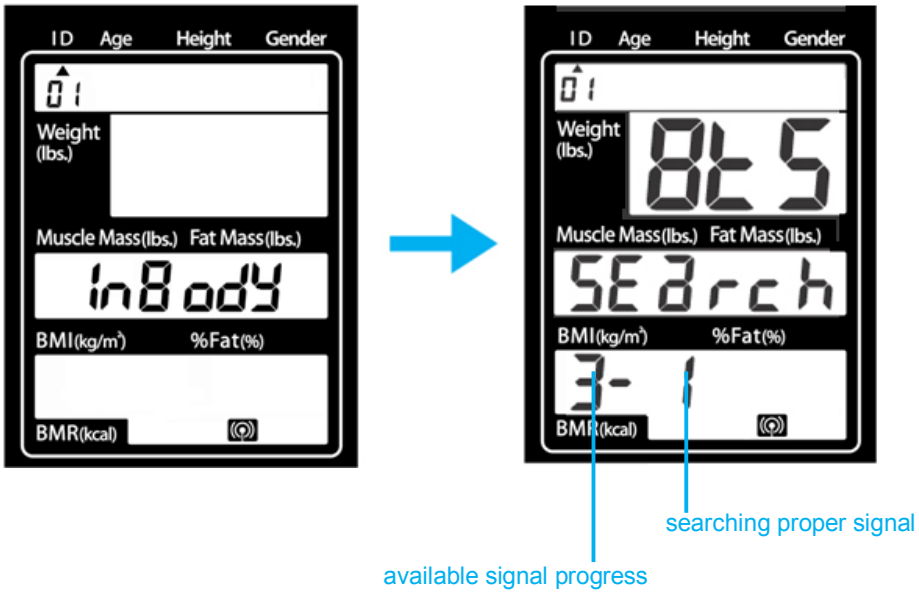
Add Bluetooth Device Wizard
Enter the passkey for the Bluetooth device.
Use the same passkey that you entered on the device.
Passkey:
You should always use a passkey, unless your device does not support one. We recommend using a passkey that is 8 to 16 digits long. The longer the passkey, the more secure it will be.
< Back
Next >
Cancel

10) When Bluetooth connection is properly done, InBody R20Ⓑ connection can be checked out from Bluetooth Devices at Control Panel as below picture.



4. Connecting InBody R20® and PC

1) Connect Bluetooth dongle to PC. When the InBody R20® power is on and InBody button is pressed, the Bluetooth connection will start automatically with the display below.



2) The connection is normal if stays on.

NOTE

R20 Connection on desktop is a communication program between InBody R20® and PC. It starts automatically with booting.

(It move to Lookin'Body S screen when you click this R20 Connection icon.)

NOTE

The connection is abnormal if continuously blinks.

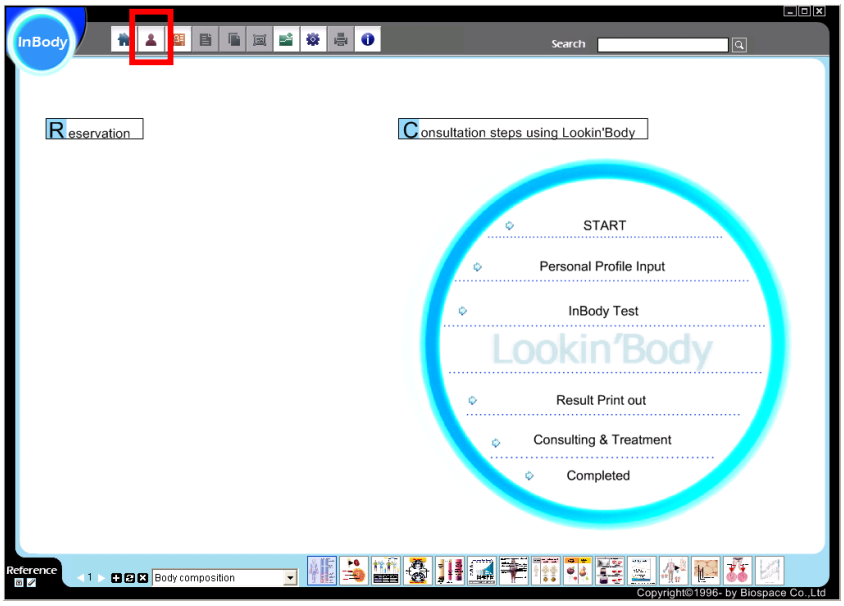
It means data will not be transferred to the Lookin'Body110_R20.

NOTE

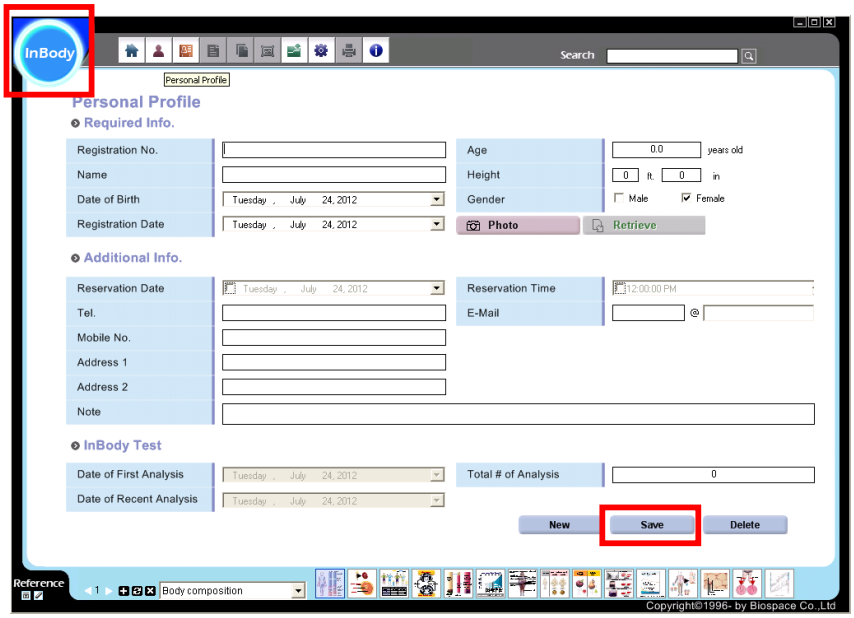
If on the screen is on, the Bluetooth is properly connected.

3) Run the Lookin'Body110_R20 by double clicking Lookin'Body 110_R20 icon.

4) Move to the 'Personal Profile' menu ( ) by clicking the button at upper part of the screen.

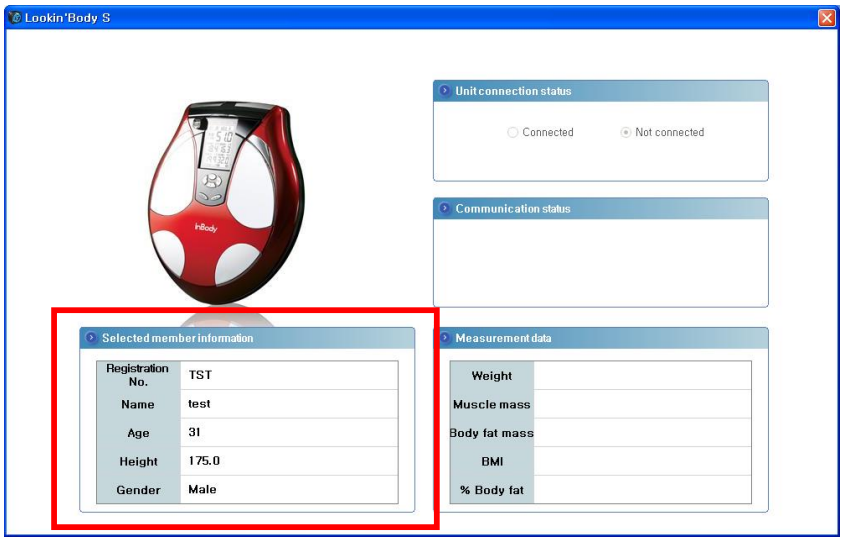


5) After the input of identification information, click **"Save"** button. And then, click InBody at left upper part of screen.



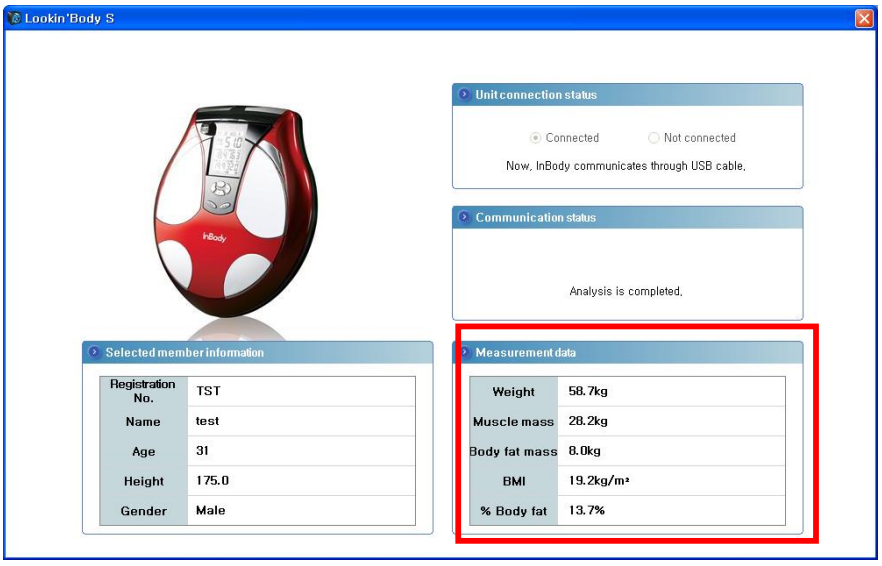
6) ID information will be transferred to InBody R20Ⓑ through Lookin'Body S by clicking

Transferred information is found at Lookin'Body S screen.

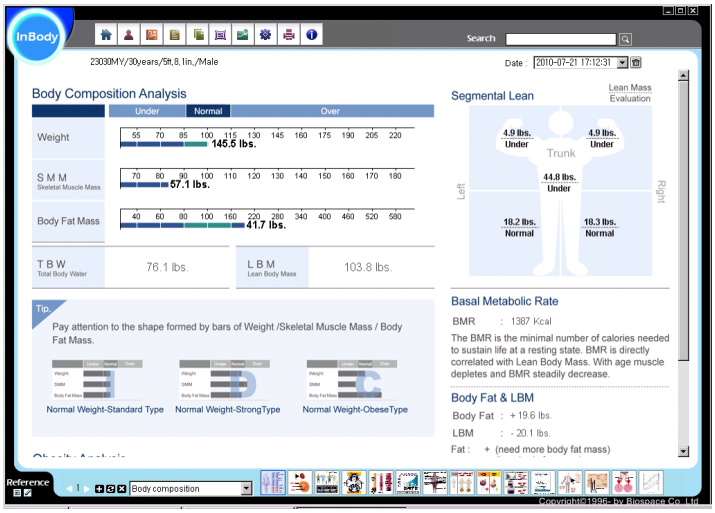


7) After the transmission of ID information, please step on the InBody R20Ⓑ for body composition analysis.

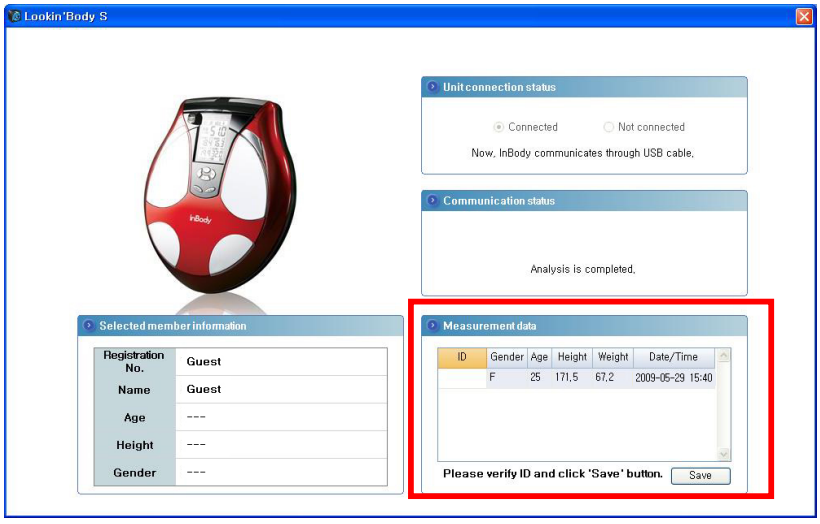
8) After completion of InBody analysis, measured data is transferred to Lookin'Body110_R20. The measured data is found at Lookin'Body S screen as shown in the below picture when InBody analysis is successfully done.



9) Also, the analysis result is found at result menu as shown in the below picture.



10) In case InBody analysis starts by clicking the button on InBody R20^{B} unit not from InBody at Lookin'Body110_R20), the measured data is found at Lookin'Body S screen as shown in the below picture.



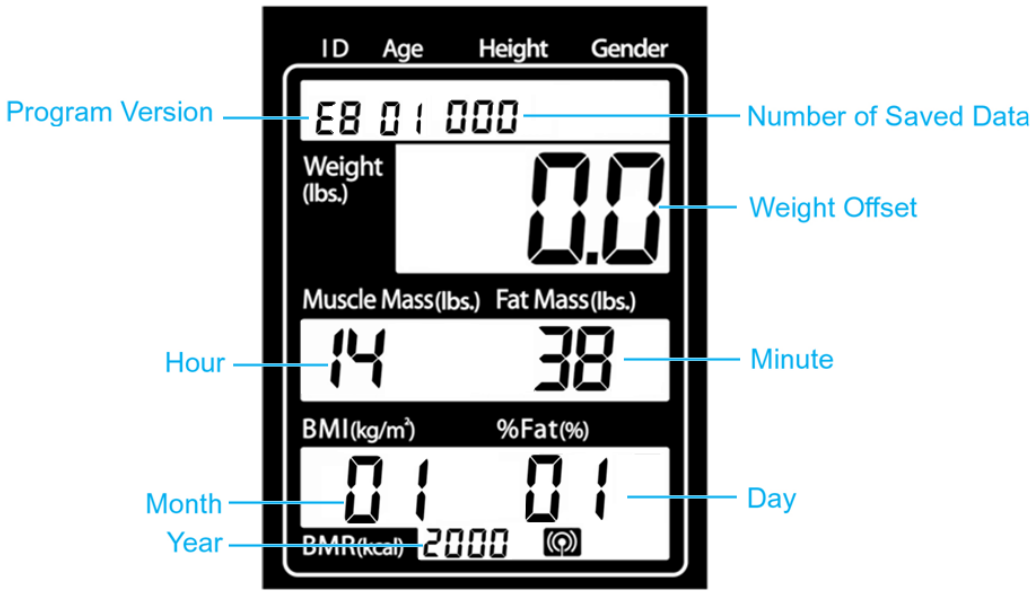
11) ID part at 'Measurement data' is blank. Input ID here and click 'Save' button so as to save data at Lookin'Body110_R20. This saved data is found at 'Result' menu under the chosen ID.

12) After the first access, it will access automatically without searching from second time.

5. Configuration

A. Start Configuration

When the power is off, press and hold ▲ until you see the configuration menu.



B. Change Configuration

Press ◀ ▶ to move the cursor in the order of Weight Offset - Hour - Minute - Month - Day - Year. The number will blink where the cursor is located.

Press ▲▼ to adjust the number. The number will change fast if you press and hold the button.

1) Time and Date set up : hour, minute, month, day, and year.

2) Weight Offset: This is to adjust body weight offset. If your clothes usually weigh approximately 1kg, for instance, please set the weight offset to -1.0lbs. for more accurate measurement. (Offset Range: +10lbs. ~ -10lbs., Unit: 0.1lbs.)

3) Reset: Push ◀ for five seconds to delete all the IDs and measured data and restore the configuration to factory settings.

C. To save Configuration

Press and hold Weight to save your configuration.

D. To turn on the Power

Press InBody or Weight to turn on the device.

E. When installed PC or Bluetooth Dongle is changed, please follow the directions below.

First, InBody R20Ⓑ operates Bluetooth with 1. Search 2. Access.

After the first access, it will access automatically without searching.

When the installed PC or Bluetooth Dongle is changed, it cannot search the modified data.

You need to initialize the access information saved in InBody R20Ⓑ.

▫ How to initialize ▫

1. Press Weight and ◀ button simultaneously when InBody R20Ⓑ is turned off.

2. Press and hold the ◀ button in Setup.

CAUTION

Press and hold the ◀ button in Setup.
This function will erase all test results/personal information in InBody R20Ⓑ.

6. InBody Test mode

A. Personal Information input

Press ◀ ▶ to move the cursor in the order of ID - Age - Height - Gender.

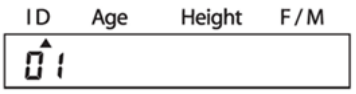
Press ▲ ▼ to adjust numbers and gender. Please press and hold the buttons to change the numbers quickly.

CAUTION

Please use your hands to operate buttons. Using feet may lead to malfunction of buttons.

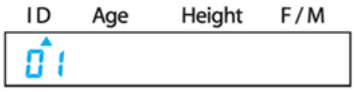
1) Start Body composition analyzing

Press InBody while the power is off or Weight Measurement mode is on.



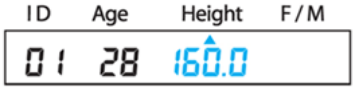
2) ID Input (Input Range: 01~99, Guest Mode)

When InBody mode is initiated, ID digits blink. Press ▲ ▼ to select an ID number from 01 to 99. Personal information will be saved under the selected ID number. GU stands for Guest Mode, which can be selected when a user does not want to save personal information.



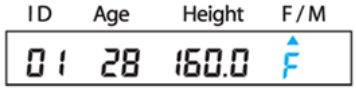
3) Age Input (Input Range: 5 years ~ 99 years)

4) Height Input (Input Range: 3ft. ~ 7ft., unit: 0.5inch)



5) Gender Input

6) Save Personal Information



When you start InBody measurement after putting personal information, the information will be saved automatically. If you want to register another ID before starting measurement, press and hold ▶ until the device beeps. Then the next digit will blink for the ID.

Repeat the 2) ID Input process. Press and hold ◀ to delete the saved personal information.

7) InBody Test

Press Weight after personal information input.

When your posture is right, InBody Test begins automatically.

InBody R20® can be operated for the body composition analysis without connection to PC. For more results and data management, however, use of InBody R20® with PC connection is recommended..

B. Tips Before InBody Test

1) Make yourself as light as possible. Wear light clothes for measurement.

2) Please go to the bathroom before measurement. Urine and feces affect your weight and consequently the body composition analysis.

3) Please conduct the measurement before meals or at least two hours after meals. Food in the stomach before digestion affects body weight, causing possible errors in the result.

4) Please avoid taking measurement right after bath, sauna, and physical exercise. Body water is in instable condition after a bath, a sauna, or physical exercise, which could lead to incorrect measurement data.

5) It is recommended to have a test in the morning. Body composition is in the most stable condition before starting full activities of the day.

6) In case of repeated measurement to compare the results, please maintain surrounding conditions same (weight of clothes, time, food intake, etc.).

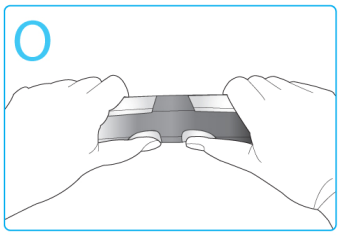
7) If you wear a pacemaker or other electronic medical devices inside your body, please do not use this body composition analyzer.

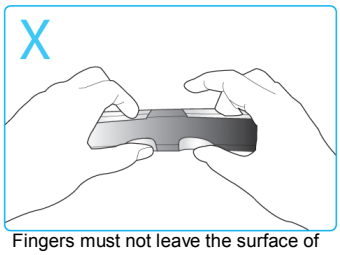
C. How to Hold InBody Electrode

Take the hand grip and hold it with the palms and thumbs touching the hand electrodes. Step on the foot electrodes at the platform. Make sure your hands and feet on both sides are not touching each other. Please refer to next page for the right measurement posture.

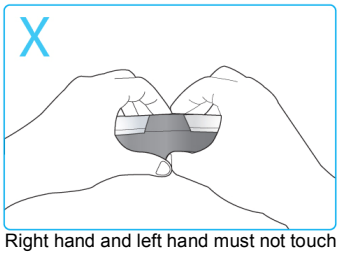
The measurement begins automatically when your position is set.

1) Hand Electrodes



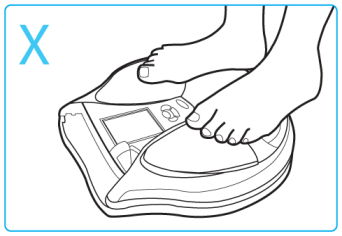


Fingers must not leave the surface of the electrodes.

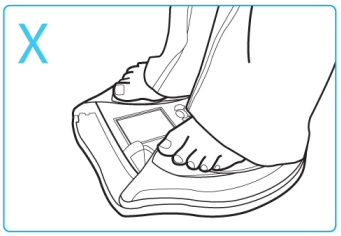


Right hand and left hand must not touch each other.

2) Foot Electrodes



Step on the foot electrode with the heels first and then the entire soles of your feet.



Be careful not to stand with your heels on the pants hems.

NOTE

Make sure your bare hands and bare feet maintain contact with electrodes. Please be careful not to let the hems of your pants get stuck between your heels and the foot electrodes. In case your feet are relatively small, please step on the electrode with the heels touching them first.

NOTE

The LCD screen will display 'POSE' sign when your body posture is not good. In this case please correct your posture and wait for about 5 seconds until the measurement resumes automatically.

D. Recommended measurement posture

1) Please keep your eyes to the front.

2) Grab the hand electrodes with bare hands and be careful not to let your hands touch each other.

3) Thighs should not touch each other if possible.

✻Tip: For those whose thighs contact each other, it is recommended to wear shorts, which come down below the thighs for accurate measurement.

4) No moisture or too much callus tissues on the palms or soles of feet may lower the accuracy of the measurement.

✻Tip : Wipe your hands and feet with wet tissues before the measurement.

5) Take your socks or stockings off and measure with bare feet. Step on the platform with your feet and the electrodes aligned on foot electrodes. Your feet must not contact each other.

E. Test Completion

The test takes about 30 seconds. When the measurement is completed, END will blink on the screen with beeps. The result will be displayed for about 1 minute.

Return the hand grip to the original position after the test is completed.

F. Power Off

Press Weight to turn off the device. The device will be automatically turned off after 3 minutes when it is left untouched. To continue Body composition analyzing for another person, press InBody and repeat from 'ID Input' process without turning off the power.

7. Weight Measurement Mode

Use Weight Measurement mode when you want to just check your weight.

Press Weight when the device is off or Body composition analyzing menu is running.

Please step on the platform when the Weight Measurement menu is up. The device will automatically measure your weight. You can press and hold Weight to turn off the device after the measurement. Or it will turn itself off after a minute even if you don't press any button.

Calibration

Align the hand electrode cable properly without any twisted part.

If the device is calibrated while the hand electrode cable is twisted or the hand electrode is not positioned correctly, weight measurement may produce incorrect data.

❶ Press arrow ▼ for more than 3 seconds.

❷ Calibration is completed when you hear beeps.

CAUTION

Please put the hand electrode in correct position. Otherwise, weight measurement can be affected.

8. Maintenance

1) After usage, wipe electrodes with a wet tissue (also known as wet naps, surface wipes, anti-bacterial tissues, etc.) Wet tissues can be purchased at any local store.

2) Handle the arms with care. Never apply excessive force near the hand electrode joint. The damage caused by misuse may affect the function of the internal cable and electric board.

3) Do not place anything on the platform or apply any pressure onto it when the InBody R20^{B} is not in use.

4) Do not drop any food or liquid on the equipment. It may affect the electrical parts in the equipment or cause damage.

5) Once a week, wipe the exterior sides of the InBody R20^{B} with a dry towel. In particular, clean the LCD monitor, using gentle care not to scratch the surface.

6) Follow local governing ordinances and recycling plans regarding the disposal or recycling of device components.

9. Understanding of Results

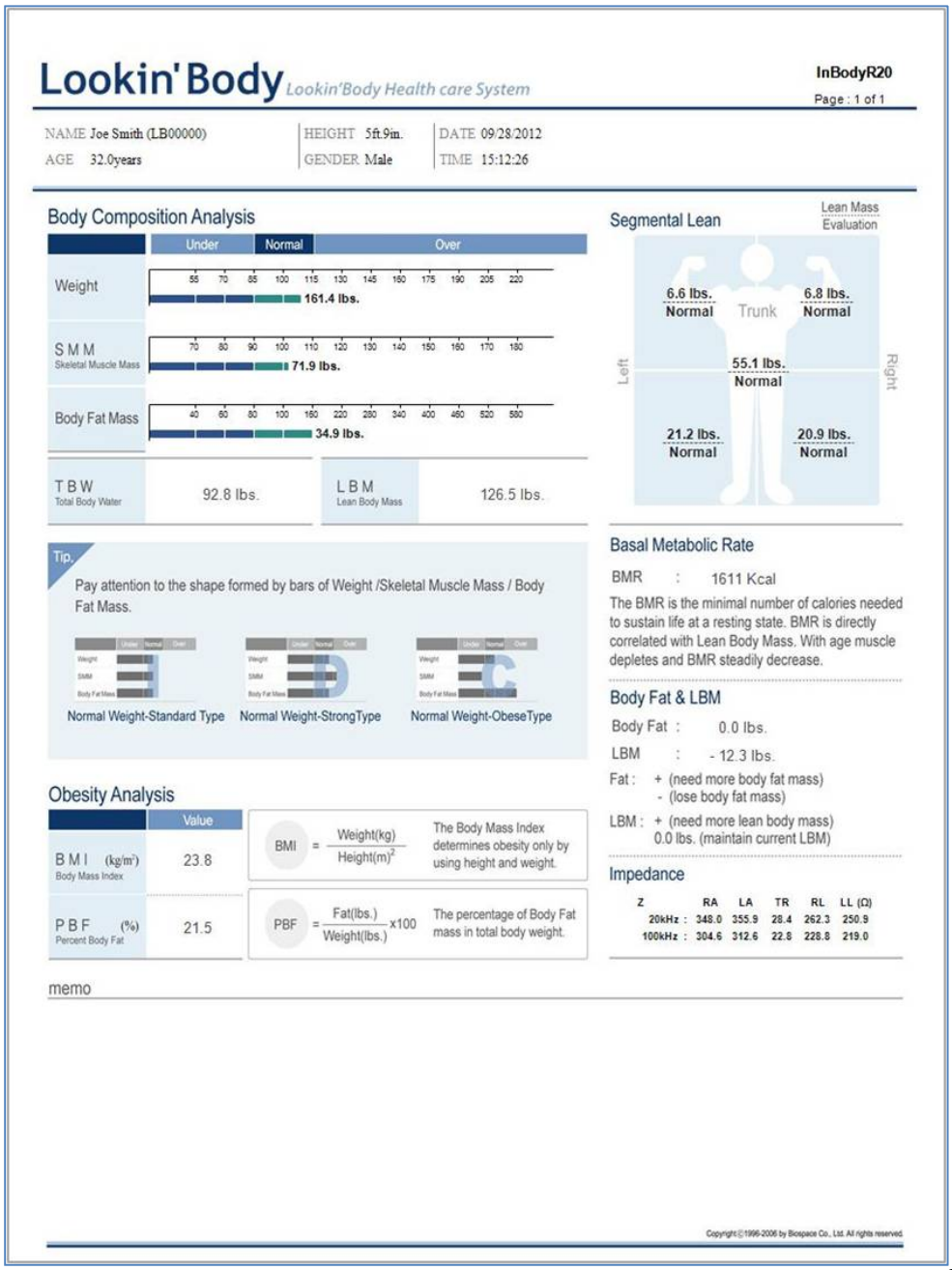
A. Result Screen

During measurement, the InBody R20® displays information of an examinee's body composition on the LCD. The results are shown on the LCD while an examinee is standing on the machine. The device will be automatically turned off after 3 minutes when it is left untouched.

B. Result Sheet

With a printer connected to the Lookin' Body Basic (PC Program), result sheets can be printed out.

The result sheets are consumable. Use the printed result sheet provided by Biospace. Please contact Biospace or an authorized distributor to place a purchase order.



Lookin'Body Lookin'Body Health care System

InBodyR20

Page : 1 of 1

NAME Joe Smith (LB00000) | HEIGHT 5ft.9in. | DATE 09/28/2012

AGE 32.0years | GENDER Male | TIME 15:12:26

Body Composition Analysis

	Under	Normal	Over
Weight	55 70 85 100 115 130 145 160 175 190 205 220	161.4 lbs.	
SMM Skeletal Muscle Mass	70 80 90 100 110 120 130 140 150 160 170 180	71.9 lbs.	
Body Fat Mass	40 60 80 100 160 220 280 340 400 460 520 580	34.9 lbs.	

TBW Total Body Water 92.8 lbs. | LBM Lean Body Mass 126.5 lbs.

Tip.

Pay attention to the shape formed by bars of Weight /Skeletal Muscle Mass / Body Fat Mass.

Normal Weight-Standard Type | Normal Weight-StrongType | Normal Weight-ObeseType

Obesity Analysis

	Value
BMI (kg/m²) Body Mass Index	23.8
PBF (%) Percent Body Fat	21.5

BMI = Weight(kg) / Height(m)² — The Body Mass Index determines obesity only by using height and weight.

PBF = Fat(lbs.) / Weight(lbs.) x100 — The percentage of Body Fat mass in total body weight.

memo

Segmental Lean — Lean Mass Evaluation

6.6 lbs. Normal | Trunk | 6.8 lbs. Normal

Left | 55.1 lbs. Normal | Right

21.2 lbs. Normal | 20.9 lbs. Normal

Basal Metabolic Rate

BMR : 1611 Kcal

The BMR is the minimal number of calories needed to sustain life at a resting state. BMR is directly correlated with Lean Body Mass. With age muscle depletes and BMR steadily decrease.

Body Fat & LBM

Body Fat : 0.0 lbs.

LBM : - 12.3 lbs.

Fat : + (need more body fat mass) - (lose body fat mass)

LBM : + (need more lean body mass) 0.0 lbs. (maintain current LBM)

Impedance

Z	RA	LA	TR	RL	LL (Ω)
20kHz :	348.0	355.9	28.4	262.3	250.9
100kHz :	304.6	312.6	22.8	228.8	219.0

Copyright ©1996-2006 by Biospace Co., Ltd. All rights reserved.

C. Output Items

The following are the explanations for each item.

NOTE

The normal range on the result sheet is the standard provided by Biospace based on the Biospace possessed reference data.

NOTE

Basically, the result sheet shows measured values for each test item. Regarding the standard result as 100%, it shows the ratio of measured values to standard values with the bar graph's length. The normal range will be set according to the standard value to enhance examinee's easy understanding of result sheet.

1) Personal Information

The examinee's name / ID, age, height, gender, date & time are displayed here.

NAME Joe Smith (LB00000)	HEIGHT 5ft.9in.	DATE 09/28/2012
AGE 32.0years	GENDER Male	TIME 15:12:26

2) Body Composition

The measured values of the examinee's body's composition are displayed here.

① Weight (lbs.)

Standard weight indicates the ideal value proportionate to the examinee's height. The InBody R20Ⓑ provides the standard weight range, based on the BMI (Body Mass Index) Standard Weight Index.

② Skeletal Muscle Mass (lbs.)

Distinctively, skeletal muscle mass, which generally indicates the lean body mass of each arm and leg, can be controlled by exercise and dietary habits. Compare the bar graphs lengths of skeletal muscle mass with body fat mass. If the bar of skeletal muscle mass is relatively shorter and under the standard value, lean body mass lacks in the body, while the opposite case is proper. 100% signifies ideal skeletal muscle mass when examinee's weight is normal. The standard range is 90~110% of standard skeletal muscle mass based on standard weight.

③ Body Fat Mass (lbs.)

The standard range of Body Fat Mass is ascertained by calculating an examinee Body Fat Mass as compared to the standard weight and standard Body Fat Mass. The InBody R20Ⓑ displays the percentage of the standard value of Body Fat Mass scored by the examinee in a bar graph.

④ Total Body Water (lbs.)

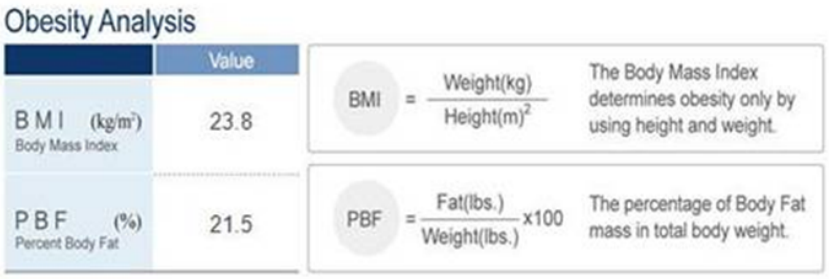
The total water in our body.

⑤ Lean Body Mass (lbs.)

The amount of lean body mass

3) Obesity Analysis

This enables you to analyze the obesity degree in a convenient and accurate fashion. The numerical value at the end of the bar graph shows you the examinee's body fat in relationship to the standard body fat range.


Obesity Analysis
Value
BMI (kg/m²)
Body Mass Index
23.8
PBF (%)
Percent Body Fat
21.5
BMI = Weight(kg) / Height(m)²
The Body Mass Index determines obesity only by using height and weight.
PBF = Fat(lbs.) / Weight(lbs.) x100
The percentage of Body Fat mass in total body weight.

① BMI (Body Mass Index, kg/㎡)

Body Mass Index is a convenient way of assessing the degree of obesity. Body composition and Lean Body Mass are not considered. BMI is determined using only the weight and height. The InBody R20® identifies a standard BMI of 22 for males and 21.5 for females.

Formula) BMI = weight (kg) ÷ height^2 (m)^2

Determination 1) WHO Standard

BMI(kg/㎡)	Classification		Diagnosis
<18.5	Underweight	Under	Infectious disease, malnutrition related disease
18.5~24.9	Normal	Standard	Least risk at most disease
25.0~29.9	Overweight	Over	May cause health problem
30.0~34.9	Obese1		Increase of the risk of cardiac disease, high blood pressure, diabetes, etc
35.0~39.9	Obese2		
>40		Severely Obese	

Ref. WHO and the National Heart, Lung, and Blood Institute: clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults, the evidence report. June 1998, xiv

Determination 2) Asian-Pacific Standard

BMI(kg/㎡)	Classification	Diagnosis
<18.5	Underweight	Low (high risk of other clinical disease)
18.5~22.9	Normal	Average
>23	Overweight	
23~24.9	Risky Overweight	Increased
25.0~29.9	Obese step1	Moderate
>30	Obese step2	Severe

Ref. Korean Society for the Study of Obesity, chapter 2. Redefining and Evaluation, The Asian-Pacific perspective: Redefining Obesity and its Treatment:, 1st edition, Korean Society for the Study of Obesity, 2001, p10.
For children under the age of 18, children' standard is used.

② Percent of Body Fat (%)

Percent body fat indicates the percentage of body fat to body weight. The standard percent body fat is 15% for men and 23% for women, and the standard range for men is 10-20% and 18%-28% for women. In case of children under the age of 18, a different standard is used.

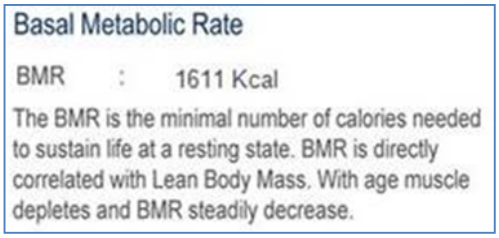
Ref. Samuel J. Fomon, M.D., et al. Body Composition of reference children from birth to age 10 years. The American Journal of Clinical Nutrition, 35, 1169-1175, 1982.

4) Segmental Lean

'Segmental Lean' shows that the level of segmental muscle mass in consideration of an examinee's weight. Description of picture is followed as below.

5) Basal Metabolic Rate (BMR)

The Basal Metabolic Rate is the mineral number of calories needed to sustain life at a resting state. BMR is directly correlated with Lean Body Mass. With age muscle depletes and BMR steadily decreases.


Basal Metabolic Rate
BMR : 1611 Kcal
The BMR is the minimal number of calories needed to sustain life at a resting state. BMR is directly correlated with Lean Body Mass. With age muscle depletes and BMR steadily decrease.

6) Body Fat & LBM

Body Fat & LBM
Body Fat : 0.0 lbs.
LBM : - 12.3 lbs.
Fat : + (need more body fat mass)
- (lose body fat mass)
LBM : + (need more lean body mass)
0.0 lbs. (maintain current LBM)

① Body Fat (lbs.)

The amount of body fat to be controlled. The (+) and (-) signs indicate the necessary amount to increase and decrease

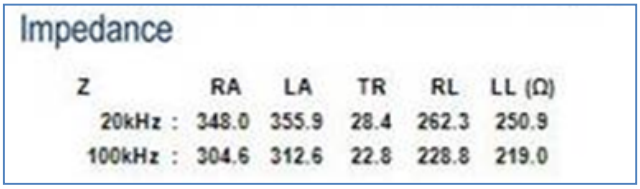
② LBM (lbs.)

The amount of lean body mass to be controlled. The (+) and (-) signs indicate the necessary amount to increase and decrease

.

7) Impedance

It shows the impedance values from the measurements at 2 frequencies (20, 100kHz). For further research purposes, from the left to the right, it shows the values for the right arm, left arm, trunk, right leg and left leg. This data can be used as an index to judge if the measurement is wrong or the unit is defective.


Impedance

Z	RA	LA	TR	RL	LL (Ω)
20kHz :	348.0	355.9	28.4	262.3	250.9
100kHz :	304.6	312.6	22.8	228.8	219.0

10. Error Messages

InBody R20Ⓑ helps users respond to possible malfunctions that may occur by displaying error messages described below. This is the list of typical error messages and adequate responses.

A.

Cause 1 Bad body posture due to poor contacts at hand or foot electrodes.

Actuion1 See “Chapter 6 - C. How to Hold InBody Electrode” and correct the body posture.

Cause 2 Extreme dryness or callus tissues of hands and feet

Action 2 Wipe palms and soles with wet tissues and try another measurement with correct position.

B.

Cause 1 Fundamental problem of the device suspected.

Actuion1 Please contact Customer Support . (info@inbody.com)

11. One-Minute Check Before Calling for Service

This section lays out the order of steps you have to take in case of malfunction, with the assumption that you have some basic knowledge about how to operate the equipment. If you still have the problem after taking the following steps, contact the local distributor or Biospace.

A. I cannot turn on the device even though I press InBody or Weight button.

(Normally LCD is light up.)

Cause 1 The batteries might have been fully discharged.

Action 1 Replace the batteries.

Cause 2 User might have pressed InBody or Weight too shortly.

Action 2 Press and hold the button until the screen lights up.

B. Measurement data looks strange.

(Percent body fat, muscle mass, or other parameters are too high or too low.)

Cause 1 Poor contact between the body and the electrodes or incorrect body posture.

Action 1 Please maintain correct body posture throughout the test.

Cause 2 Measured weight looks strange.

Action 2 Please check if the hand grip is placed at right position.

or Please check Weight Offset in the configuration.

Cause 3 Personal information of others – ID, height, etc. – might have changed.

Action 3 Please check ID, age, height, gender, and other personal information. If height information is wrong, please correct it.

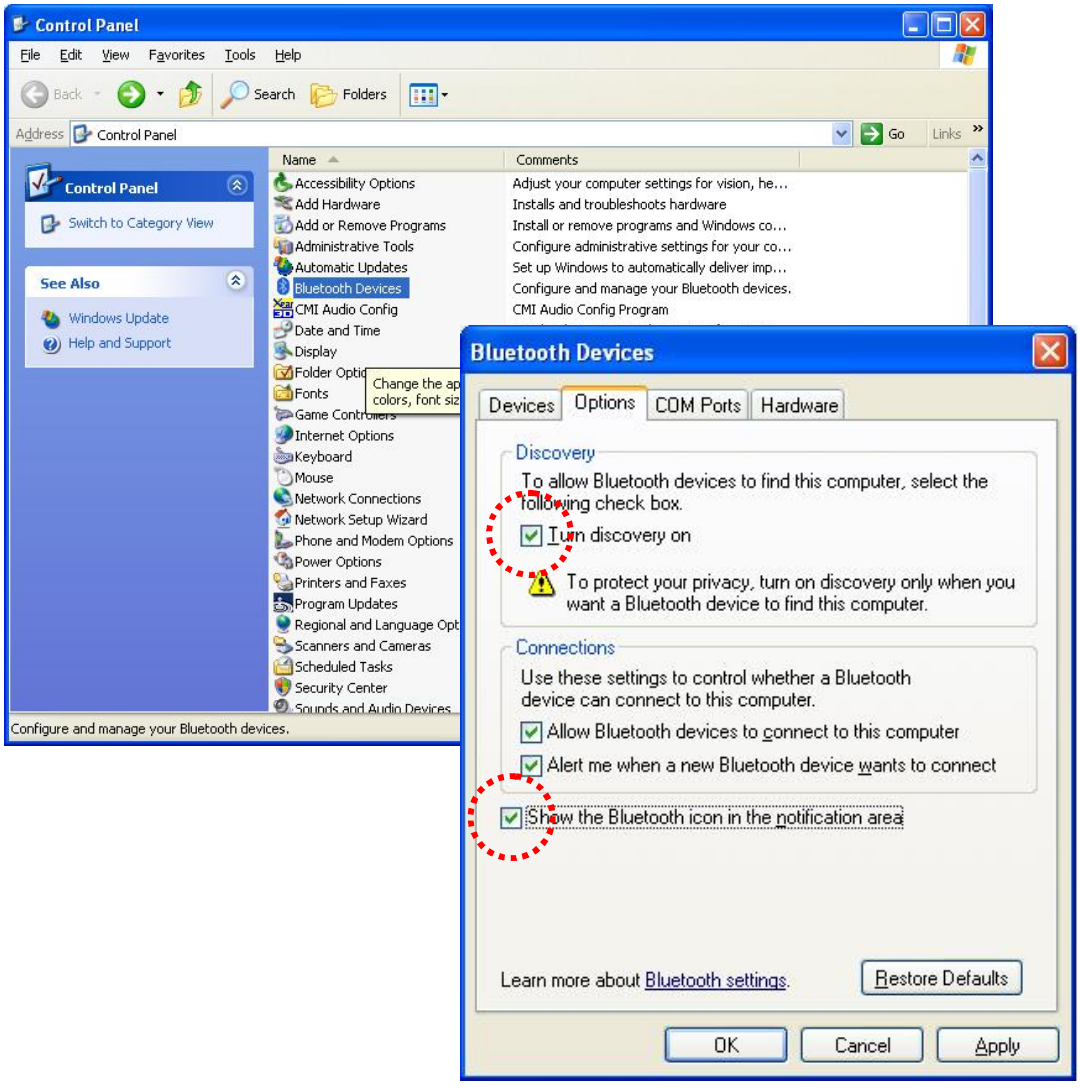
C. Measurement data is not transferred.

(When the Bluetooth is connected, the data will be automatically transferred after the measurement.)

Cause 1 Poor connection of the Bluetooth dongle. Its connection can be checked by the Bluetooth icon.

Action 1 Please check if there is a Bluetooth icon on the LCD and reconnect the Bluetooth dongle.

Action 2 Please find the Bluetooth icon from Control Panel and double click, then below screen will appear. Please set as below picture and click “OK” button to save the set value.



Appendix

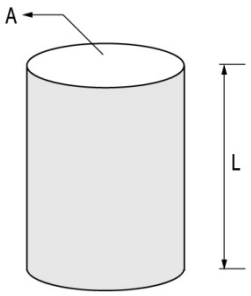
More about the InBody R20®

A. How does BIA work?

The Bioelectrical Impedance Analysis (BIA) method is based on the fact that the human body consists of conductors and non-conductors. Generally, 50~70% of the human body consists of water which functions as a conductor, whereas body fat functions as a non-conductor.

The classic BIA method measures the impedance of the whole body on the assumption that the human body can be considered a cylinder for the application of this model. If A is the cross sectional area, and L is the length, the impedance of the cylinder can be expressed as follows.

$$Z = \rho\frac{L}{A} \quad (\rho = \text{resistivity})$$



If both sides are multiplied by L, We get the new expression as follows.

$$V = \rho\frac{L^2}{Z} \quad (V(\text{Volume}) = A(\text{Area}) \times L\ (\text{Length}))$$

According to this expression, if we know the L and the impedance value, we get the volume. That is to say, if we know the height of the human body (acting as a conductor), and know the impedance value, we can get the volume of body water. Here, the volume represents examinee's height. Therefore, the two directly used variables in body composition analysis are impedance and height.

The principle of the InBody R20®'s body composition analysis is explained by the following; the volume of body water, an electrolyte, is calculated first with a measured impedance value. Then, we can get the value of fat free mass using the volume of body water. Body fat mass is determined by deducting the lean body mass from the measured weight.

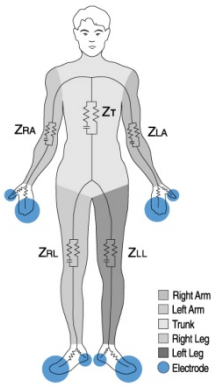
Height should be entered by the user. Weight can be directly measured on the InBody R20®.

B. Core Technology

The following are key features that make the InBody R20Ⓑ extremely convenient, timely, and accurate.

(1) Tetrapolar 8-Point Tactile Electrode

It was a complex and inconvenient procedure to attach and detach the electrodes to a specific spot every time. Trained technicians were needed for each measurement. The InBody R20Ⓑ uses tactile electrodes to avoid the possibility of errors and inaccuracies. The 8-point Tactile Electrode method enables the InBody R20Ⓑ to efficiently produce accurate data every time.



(2) Segmental Analysis

There are some claims to be able to estimate the body composition separately; there is no technology which can really measure it separately other than Biospace. Segmental measurement is the technology that assumes the body as five cylinders of four limbs and trunk and measures the impedance of these parts separately. Segmental body composition analysis provides segmental measurement of body water, muscle mass, and fat free mass. Furthermore, the analysis is highly accurate because the measured value of a certain part does not affect the measurements of other segments. It is because body composition analyzers lack accuracy in measuring body fat and cannot figure out the patient's exact shape that they must rely on empirical references to correct inaccurate measured values. But, the InBody with the technology of segmental analysis can exactly figure out difference by gender, aging, disease and ethnic without any empirical estimation. Based on the fact that fat free mass (FFM) consists of about 73.3% of body fluid, it can be concluded that the distribution of body fluid reflects the distribution of FFM. Because the InBody can analyze the segmental body fluid distribution (each arm, trunk, and each leg separately), it can as a result examine a patients segmental development.

C. Classifications

Type of protection against electric shock: Internally Powered Equipment

Degree of protection against electric shock: Type B Applied Parts

Degree of protection against the ingress of water: Ordinary equipment: IPX0

Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

Mode of operation: Continuous operation

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for medical devices in EN 601-1-2. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving device.
- Increase the separation between the equipment.
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
- Consult the manufacturer or field service technician for help.

Contains transmitter FCC ID : QOQWT11

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

D. Specifications

Items & Standard	BODY COMPOSITION ANALYZER of Direct Segmental Multi-frequency Bioelectrical Impedance Method	
Bioelectrical Impedance(BIA) Measurement Items	Bioelectrical Impedance(Z)	10 Impedance Measurements by Using 2 Different Frequencies (20 ㎑ and 100 ㎑) at Each of 5 Segments (Right Arm, Left Arm, Trunk, Right Leg and Left Leg)
Electrode Method	Tetrapolar 8-Point Tactile Electrodes	
Measurement Method	Direct Segmental Multi-frequency Bioelectrical Impedance Analysis Method; DSM-BIA Method	
Body Composition Calculation Method	No Empirical Estimation	
Outputs	Weight, Skeletal Muscle Mass, Body Fat Mass Total Body Water, Fat Free Mass BMI, Percent Body Fat, Basal Metabolic Rate (BMR) Fat Control, Muscle Control Segmental Analysis of Lean (Right arm, Left arm, Trunk, Right leg, Left Leg), Impedance of Each Segment.	
Applied Rating Current	250 ㎂	
Power	DC 6V (1.5V X 4EA) AA Type Battery	
External Interface	Bluetooth	
Dimensions	321(W) X 360(L) X 58(H) : mm 12.6(W) X 14.2(L) X 2.3(H) : inch	
Machine Weight	6.6lbs.	
Measurement Duration	30 seconds	
Color	Claret Wine	
Operation Environment	10 ~ 40℃ (50 ~ 104℉), 30 ~ 75%RH, 70 ~ 106kPa	
Storage Environment	-20~ 70℃ (-4 ~ 158℉), 30 ~ 95%RH, 50 ~ 106kPa	
Weight Range	10 ~ 150kg (22 ~ 330lbs.)	
Age Range	5 ~ 99years	
Height Range	100~200cm (3ft 3.4in ~ 6ft 6.7in)	

* Specifications may change without prior notice.

E. Customer Service Information

Corporate agents' addresses are listed below. Contact us for assistance or more information.

Biospace Co., Ltd.
518-10, Dogok 2-Dong, Gangnam-gu, Seoul 135-784, Korea
TEL : 82-2-501-3939
FAX : 82-2-578-2716
Homepage://www.inbody.com
E-mail : info@inbody.com

Biospace Japan Inc. [JAPAN]
Second Floor Ayabe Bldg., 2-17-3 Sotokanda, Chiyoda-ku, Tokyo JAPAN
TEL : 81-03-5298-7667
FAX : 81-03-5298-7668,7669
Homepage : http://www.biospace.co.jp
E-mail : biospace@biospace.co.jp

Biospace Inc. [U.S.A]
13850 Cerritos Corporate Drive, Unit C, Cerritos, CA, 90703 U.S.A.
TEL : 1-323-932-6503
FAX : 1-323-952-5009
Homepage : http://www.biospaceamerica.com
E-mail : USA@biospaceamerica.com

EU Representative. [Europe]
DONGBANG ACUPRIME
1 Forrest Units, Hennock Road East, Marsh Barton, Exeter EX2 8RU, U.K
TEL : +44 1392 829500
FAX : +44 1392 823232

Biospace China. [CHINA]
Block A, 26/F, Hai Xing plaza, No. 1 South Ruijin Road, Shanghai 200023, CHINA
TEL : 86-21-64439738, 9739, 9705
FAX : 86-21-6443906
Homepage : http://www.biospacechina.com
E-mail : admin@biospacechina.com